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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,353	07/25/2003	Fumio Saitoh	14157-011001 / PIP2003102	2331
26161	7590	12/23/2005	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			TRUONG, DUC	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/627,353	SAITOH ET AL.	
	Examiner	Art Unit	
	Duc Truong	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/06191, alone, or in view of EP 0990673, both of record on 1449.

WO 93/06191 discloses methods of preparing thermotropic and lyotropic liquid crystalline polybenzazole films (see page 23, page 14), wherein the film is produced by solidifying the polybenzazole (see page 12, last paragraph) oriented in a given direction by the application of an electric or magnetic field that is normal to the in plane orientation thereby producing a film wherein the controlled biaxial orientation is skewed out of the plane of orientation (see page 11, last paragraph) or the orientation into the z-direction may be achieved --- (see page 16, third paragraph) in that it is clear to see the step of solidifying the polybenzazole oriented along a direction of a magnetic or electric field (z-direction).

Note that the methods for preparing film based having a controlled CTE and comprising an aromatic thermotropic or lyotropic liquid crystalline polymer film having a controlled in plane biaxial orientation skewed out of the plane of orientation have been disclosed at page 11, second paragraph et seq.; onto page 14, in the Examples and in Figures 1-13).

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The disclosure of the reference differs from the instant claims in that it does not disclose the claimed formulas (1-4.).

However, said claimed formulas are included in the broad teachings of the polybenzazole polymers on page 23 of the reference. Further, the EP 0990673 reference does disclose the polybenzazole resin of the formulas (A) and (B, which are read on the claimed formulas.

Therefore, it would have been obvious to one of ordinary skill in the art to select the PBZ resin, from the WO 93/06191 reference, within the limitation of the claimed formulas, or to use the formulas of the EP 0990673 reference, to determine said PBZ resin of the WO 93/06191, in order to gain the advantages of the combination of the references, that being a PBZ film of the claimed formulas oriented in a given direction by the application of a magnetic or electric field, having the added properties, of having excellent in all of thermal, electrical, physical and mechanical characteristics in use of semiconductors (see Abstract and at page 3, paragraph 4).

EP 0990673 provides evidence that a PBZ resin of the claimed formulas is well known in the art to provide the characteristics.

The selection of PBZ resin, in the WO 93/06191 reference, or the use of that in the EP 0990673 reference, would not provide an unexpected result to one of ordinary skill in the art.

Applicant is correct in stating that the reference recites applying a shearing force and an electric or magnetic field, whereas the instant claims recites only applying an electric or magnetic field. However, the claims are broad enough in that any forces or

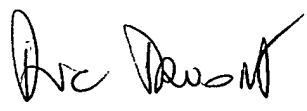
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fields are not excluded. Therefore, it would also have been obvious to one of ordinary skill in the art to add the shearing force along the direction of a magnetic or electric field since the addition of an element and its function from a combination is obvious in the absence of a showing of unexpected results following such addition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DUCTRUONG
PRIMARY EXAMINER